USEPA CLASS VI UNDERGROUND INJECTION CONTROL PROJECT SUBMITTED BY CES IN CENTRAL SAN JOAQUIN VALLEY NEAR TOWN OF MENDOTA, CA

SUMMARY

State Water Resources Control Board staff, in consultation with the Central Valley Regional Water Quality Control Board (collectively Water Boards) reviewed the Class VI Underground Injection Control (UIC) project application for supercritical CO_2 fluid submitted to the United States Environmental Protection Agency (USEPA) by Clean Energy Systems (CES). USEPA has asked Water Boards staff to review the CES Class VI UIC Mendota Project and to provide feedback. The majority of our concerns or questions hopefully will be resolved when the updated material is provided after CES collects the site-specific data.

DOCUMENTS REVIEWED TO DATE

A. 8 April 2020 — Kickoff meeting, Application package received from USEPA and CES (folder titled "Phase1-PreConstruction" and all its associated contents); introductory presentation by CES and Schlumberger.

B. EPA Site Characterization Evaluation of CES Class VI Permit Application No. R9UIC-CA6-FY20-1

C. EPA Technical Evaluation Comments and Information Request #2 for UIC Permit Application No. R9UIC-CA6-FY20-1 (FR ERR)

D. EPA Technical Evaluation Comments and Information Request #3 for UIC Permit Application No. R9UIC-CA6-FY20-1

WATER BOARDS STAFF QUESTIONS (STATE AND REGIONAL)

➢ Subsurface Investigation and Characterization:

1. Will a representative water sample be collected from within the Panoche sands to verify existing groundwater quality?
2. Will a Step-Rate test be conducted to determine fracture pressure of the proposed injection reservoir?
3. The application indicates carbon will be injected from 12 to 20 years (page 11). Is 20 years the maximum life span for this project?
4. Application modeling graphics show the plume migrating structurally up dip. Why does the injected plume start radially and then elongate up dip?
5. Will an up-to-date water well survey be provided to the Water Boards prior to final project approval showing all water wells drilled to date, including locations and construction information?
6. What does the "Pressure AOR" boundary line shown on the AOR figures represent (e.g., is this the minimum pressure necessary to cause fluid flow from the injection zone into the USDW, or is this the change in reservoir pressure due to proposed injections)? Can future figures include pressure contour lines?
7. Can CES clarify why the area's southwest of the injection well, which were once pressurized (i.e., AOR figures for six months and five years after injection), are no longer pressurized (i.e., AOR figures for 10 years to 50 years after injection)?

8. Attachment B does not state when the remedial work will begin for BB Co. 1 (e.g., before or after injection commences). Can further clarification be provided addressing when BB Co. 1 will be remediated?
9. Majority of the figures (e.g., cross sections, type logs) provided did not have the resolution needed to fully review the details shown. Can future submittals include figures with better resolution?
10. The application included the signature and stamp of a licensed Texas Professional Geophysicist. Water Boards strongly recommend that any future submittals that include geologic interpretations or engineering calculations be signed and stamped by an appropriate California registered professional as stipulated in the California Business and Professions Code sections 6735, 7835, and 7835.1.